VADCG PROGRAM MEMO #1

DATE: December 24, 1980

AFFECTS: LIP programs (Link Interface Programs) distributed before the above date.

SYMPTOMS: Program failure or erratic operation when link buffer becomes full.

CAUSE: Incorrect testing for buffer overflow and incorrect action when buffer overflow occurs in the 8273 receive interrupt handler.

FIX: In the source file for the LIP program locate the following statements in the receive interrupt routine, "RXINT."

```
     INCLB   4
     JNC     STARTRX   ; GOOD, GO AND START RECEIVER
OVERFLOW:
     LXI     H,DISRX   ; POINT TO DISABLE RECEIVER COMMAND
```

Change these statements to the following:

```
     INCLB   4         ; HL <-- LBIP + 4
     JZ      OVERFLOW1 ; OOPS, NO ROOM LEFT
     JC      OVERFLOW1 ; OOPS, NO ROOM LEFT
     JMP     STARTRX   ; GOOD, GO AND START RECEIVER
OVERFLOW:
     PUSH    D         ; SAVE REST OF REGISTERS
     PUSH    B
OVERFLOW1:
     LXI     H,DISRX   ; POINT TO DISABLE RECEIVER COMMAND
```

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VADCG PROGRAM MEMO #2

DATE: June 7, 1981

AFFECTS: LIP and LIPTT programs (Link Interface Programs) distributed before the above date.

SYMPTOMS: A continuous retransmission of supervisory frames between nodes when the link buffer becomes full.

CAUSE: Omission of code which records acknowledgment of a supervisory frame.

FIX: in routine ´INFRAME:´ find the following statement:

```
        ORA   B      ; OR ON REQUIRED BITS
```

After this statement add the following 11 lines:

```
      MOV  B,A        ; SAVE STAT1 IN B
      ANI  POLLR      ; IS POLL BIT ON?
      MOV  A,B        ; GET STAT1 BACK
      JNZ  INF2       ; YES, DON´T CHANGE RNRSA
      ANI  RNRS       ; TEST RNRS
      MOV  A,B        ; GET STAT1 AGAIN
      JZ   INF1       ; GO SET RNRSA TO Ø IF RNRS IS Ø
      ORI  RNRSA      ; RNRSA = RNRS = 1
      JMP  INF2       ; SKIP NEXT LINE
INF1: ANI  ØFFH-RNRSA     ; RNRSA = RNRS = Ø
INF2:
```

In routine ´NOTSYNC:´ replace the following 3 lines:

```
      LDAX B          ; A <-- CONTROL FIELD IN USBUFFER
      ORI  FBIT       ; TURN ON FINAL BIT
      STAX B          ; UPDATE CONTROL FIELD IN USBUFFER
```

with the following line:

```
      CALL POLLCHECK1      ; DO FINAL BIT PROCESSING
```

In routine ´POLLCHECK:´ locate the following line:

```
      LDA  STAT1      ; GET MAINLINE STATUS BYTE
```

and add the following line after it:

```
POLLCHECK1:
```

Doug Lockhart, VE7APU

VADCG PROGRAM MEMO #3

DATE: June 8, 1981

AFFECTS: LIP and LIPTT programs (Link Interface Programs) distributed before the above date.

SYMPTOMS: Inability to receive after link buffer becomes full.

CAUSE: 8273 receive interrupt routine did not clear interrupt condition when data received after link buffer had filled up.

FIX: In the source file for LIP or LIPTT find the label, 'OVERFLOW:' and insert the following line after it:

```
      IN   RXDATA    ; READ DATA TO CLEAR INTERRUPT
```

PREREQUISITE: Program Memo #1

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VADCG PROGRAM MEMO #14

DATE: June 9, 1081

AFFECTS: BEACON programs distributed before the above date.

SYMPTOMS: Inability of LIPTT programs to receive the data from the BEACON program.

CAUSE: The 8273 was not set to NRZI mode and the control field in all packets sent out was set for non-sequenced information frames (NSI) instead of sequenced I-frames.

FIX: In the source file for the BEACON program find the following statement:

```
SERIALIO DB    1,0AH,1    ; NRZI MODE
```

and replace it with the following statement:

```
SERIALIO DB    1,0A0H,1   ; NRZI MODE
```

Between the labels 'DATA' and 'DATAEND' there are a series of DB statements which represent the packets which will be sent out by the program. The format of each DB statement is a one-byte data length, a one-byte control field and the data to be placed in the packet. In all cases the control field is either a 3 or 13H. Change the 3 to 0 and the 13H to 10H in each occurrence.

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VADCG PROGRAM MEMO #5

DATE: June 9, 1981

AFFECTS: The sample TIP and TIPTT programs for the 8250 serial interface.

SYMPTOMS: The last byte in some packets is not being transmitted to the terminal when using a slow terminal.

CAUSE: The program was not waiting for the last byte in a packet to be completely sent before starting transmission of the first byte in the next packet.

FIX: In the routine, 'DISPATCH:' find the following statement:

```
        RNZ                 ; YES, RETURN
```

Add the following lines after the above statement:

```
        IN      LSR         ; GET LINK STATUS REGISTER
        ANI     THRE        ; IS THE TRANSMIT HOLDING REGISTER EMPTY?
        RZ                  ; NO, DON'T DO ANYTHING UNTIL IT IS
```

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VADCG PROGRAM MEMO #6

DATE: June 16, 1981

AFFECTS: LIPTT programs (Link Interface Programs for terminal to terminal communication) distributed before the above date.

SYMPTOMS: Spurious packets and incorrect control fields in packets being transmitted when in ´MONITOR´ mode.

CAUSE: Code to set up control fields in packets while in ´MONITOR´ mode was missing. Also, the ´poll´ bit was not being set on in the final packet.

FIX: Replace all statements in routine, ´SETLOOP:´ with the following statements:

```
SHLD    LTBOE    ; SAVE CURRENT ENTRY IN LTBOE
MOV     C,M      ; SAVE LENGTH IN C
INCTB   1        ; POINT TO CONTROL FIELD
MVI     M,Ø      ; SET CONTROL FIELD TO Ø
MOV     A,C      ; GET LENGTH IN A
ADI     1        ; ADD 1 TO GET PAST HEADER
RST     2        ; POINT TO NEXT ENTRY
JNZ     SETLOOP  ; GO DO ANOTHER IF NOT FINISHED
LHLD    LTBOE    ; FINISHED, GET PREVIOUS ENTRY BACK
INCTB   1        ; POINT TO CONTROL FIELD AGAIN
MVI     M,1ØH    ; PUT FINAL BIT ON
XCHG             ; GET CTBIE IN HL
SHLD    LTBOE    ; INDICATE END OF LAST FRAME TO TRANSMIT
SHLD    OTBE     ; UPDATE OLDEST FRAME POINTER
RET              ; RETURN TO CALLER
```

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VADCG PROGRAM MEMO #7

DATE: June 19, 1981

AFFECTS: LIPTT and LIP programs distributed before the above date.

SYMPTOMS: None.

CAUSE: Although this change does not correct any errors directly, it is a prerequisite for other fixes. It facilitates the transmission of supervisory and unsequenced packets and reduces the instruction path in the 8273 transmitter interrupt handling routine.

FIX: Replace all statements in routine, 'TXEARLY:' with the following statements:

```
        LDA     TCMDCON ; GET LAST CONTROL FIELD SENT
        ANI     FBIT+RR ; TEST CONTROL FIELD BITS
        JNZ     EXIT    ; EXIT IF POLL BIT OR NOT I-FRAME
        INCTB   1       ; POINT TO START OF NEXT ENTRY
        SHLD    CTBOE   ; UPDATE CURRENT ENTRY POINTER
        XCHG
        LHLD    LTBOE
        RST     5       ; WAS THAT THE LAST ENTRY TO SEND?
        JNZ     TXBUF   ; NO, GO AND SEND THIS ONE
        LXI     H,USBUFFER
        SHLD    CTBOE   ; UPDATE TO SEND USBUFFER
```

In routine, 'TXRESULT:' replace the following 3 statements:

```
        LDA     STAT2   ; GET LINK STATUS BYTE
        ANI     ØFFH-TXBUSY     ; INDICATE TRANSMITTER NOT BUSY
        STA     STAT2   ; UPDATE LINK STATUS BYTE
```

with these 3 statements:

```
        XRA     A       ; ZERO ACCUMULATOR
        STA     STAT2   ;  INDICATE  BOTH TX AND RX ARE NOT BUSY
        LDA     TCMDCON ; GET LAST CONTROL FIELD SENT
```

Starting in routine, 'TXF1:' find the following 5 lines:

```
        ANI     FBIT    ; TEST FOR FINAL BIT IN C-FIELD
        JZ      TXF2    ; NOT PRESENT, BYPASS STATUS UPDATE
        MVI     A,TXBUSY+FBIT   ; TXBUSY=1,RXBUSY=1,FBIT=1
        STA     STAT2   ; UPDATE MAINLINE STATUS
TXF2:   LXI     H,TCMDBUF   ; POINT HL AT TRANSMIT COMMAND BUFFER
```

and replace with the following line:

```
        LXI     H,TCMDBUF     ; POINT TO TRANSMIT COMMAND BUFFER
```

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VADCG PROGRAM MEMO #8

DATE: June 20, 1981

AFFECTS: LIPTT programs (Link Interface Programs for Terminal to Terminal communication) which were distributed before the above date.

SYMPTOMS: Program failure or spurious packets at during connection or disconnection.

CAUSE: Incorrect and inconsistent handling of a pointer into the terminal buffer when processing the connect buffer. The pointer was positioned incorrectly outside the buffer.

FIX: In routine, 'SENDCNCT1:' find and delete the following two lines:

```
        LXI     H,CBUFEND
        SHLD    LTBOE
```

In the equates section find the following equate and delete it:

```
CBUFEND EQU     CCA+40H ; END OF CONNECT BUFFER
```

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VADCG PROGRAM MEMO #9

DATE: June 20, 1981

AFFECTS: LIPTT programs distributed before the above date.

SYMPTOMS: Transmission of signon information as part of first information packet after signon.

CAUSE: The current terminal buffer input entry was not reset in the signon procedure.

FIX: Note that this fix causes modification of TBIP and BUFCOUNT by the LIPTT program when restart 6 is done from the TIPTT program to request connection. This should not have any effect if these variables are used in the same manner as in the sample TIPTT program. In routine, 'ALT1:' find the following line:

```
INCTB   2       ; POINT TO FIRST BYTE OF CALL FROM
```

and replace it with the following 5 lines:

```
INCTB   1       ; POINT TO ONE BYTE BEFORE DATA
SHLD    TBIP    ; SET POINTER TO REWRITE BUFFER ENTRY
INCTB   1       ; POINT TO CALL SIGN TO CONNECT TO
MVI     A,0
STA     BUFCOUNT        ; INDICATE EMPTY ENTRY
```

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